Title (en)

PROCESS FOR PRODUCING OXYGEN-CONTAINING UNSATURATED COMPOUND

Title (de)

VERFAHREN ZUR HERSTELLUNG SAUERSTOFFHALTIGER UNGESÄTTIGTER VERBINDUNGEN

Title (fr)

PROCEDE DE PRODUCTION D'UN COMPOSE INSATURE CONTENANT DE L'OXYGENE

Publication

EP 1346766 B1 20090211 (EN)

Application

EP 01272266 A 20011220

Priority

- JP 0111180 W 20011220
- JP 2000391078 A 20001222
- JP 2001094513 A 20010329
- JP 2001108122 A 20010406

Abstract (en)

[origin: EP1346766A1] An object of the present invention is to provide a highly active catalyst for producing an unsaturated oxygen-containing compound from an alkane and the catalyst comprising Mo, V, Ti and Sb or Te as the indispensable active components. The preferable catalyst is represented by formula (1) or (2) as shown below, Mo1.0 Va Tib Xc Yd Oe Mo1.0 Va Tib Xc Yd Zf Oe wherein X represents Sb or Te; Y represents Nb, W or Zr; Z represents Li, Na, K, Rb, Cs, Mg, Ca or Sr; a, b, c, d, e and f represent atomic ratios of their respective elements, with 0<a<0.7, 0<b<0.3. 0<c<0.7. 0</=d<0.3, 0<f<0.1; e is a number determined by oxidation states of the other elements than oxygen.

IPC 8 full level

B01J 23/28 (2006.01); **B01J 23/00** (2006.01); **B01J 23/18** (2006.01); **B01J 23/22** (2006.01); **B01J 23/30** (2006.01); **B01J 27/057** (2006.01); **B01J 37/08** (2006.01); **B01J 37/10** (2006.01); **C07C 45/33** (2006.01); **C07C 45/35** (2006.01); **C07C 47/22** (2006.01); **C07C 51/215** (2006.01); **C07C 57/05** (2006.01); B01J 21/06 (2006.01); B01J 23/20 (2006.01)

CPC (source: EP KR US)

B01J 23/002 (2013.01 - EP US); **B01J 23/18** (2013.01 - EP US); **B01J 23/22** (2013.01 - EP US); **B01J 23/28** (2013.01 - EP KR US); **B01J 27/0576** (2013.01 - EP US); **B01J 37/08** (2013.01 - EP US); **B01J 37/10** (2013.01 - EP US); **C07C 45/33** (2013.01 - EP US); **C07C 51/215** (2013.01 - EP US); B01J 21/063 (2013.01 - EP US); B01J 21/066 (2013.01 - EP US); B01J 23/20 (2013.01 - EP US); B01J 2523/00 (2013.01 - EP US)

C-Set (source: EP US)

1. **C07C 45/33** + **C07C 47/22**
2. B01J 2523/00 + B01J 2523/47 + B01J 2523/55 + B01J 2523/56 + B01J 2523/64 + B01J 2523/68
3. B01J 2523/00 + B01J 2523/47 + B01J 2523/53 + B01J 2523/55 + B01J 2523/56 + B01J 2523/68
4. B01J 2523/00 + B01J 2523/47 + B01J 2523/53 + B01J 2523/55 + B01J 2523/68
5. B01J 2523/00 + B01J 2523/13 + B01J 2523/47 + B01J 2523/53 + B01J 2523/55 + B01J 2523/68 + B01J 2523/69
6. **C07C 51/215** + **C07C 57/04**
7. B01J 2523/00 + B01J 2523/13 + B01J 2523/47 + B01J 2523/53 + B01J 2523/55 + B01J 2523/56 + B01J 2523/68
8. B01J 2523/00 + B01J 2523/47 + B01J 2523/48 + B01J 2523/53 + B01J 2523/55 + B01J 2523/68
9. B01J 2523/00 + B01J 2523/13 + B01J 2523/47 + B01J 2523/53 + B01J 2523/55 + B01J 2523/68
10. B01J 2523/00 + B01J 2523/14 + B01J 2523/47 + B01J 2523/53 + B01J 2523/55 + B01J 2523/68
11. B01J 2523/00 + B01J 2523/15 + B01J 2523/47 + B01J 2523/53 + B01J 2523/55 + B01J 2523/68
12. B01J 2523/00 + B01J 2523/47 + B01J 2523/53 + B01J 2523/55 + B01J 2523/68 + B01J 2523/69
13. B01J 2523/00 + B01J 2523/13 + B01J 2523/47 + B01J 2523/48 + B01J 2523/53 + B01J 2523/55 + B01J 2523/68

Cited by

US8697596B2; RU2476265C2; DE112009000404T5; US8084388B2; WO2008123975A1; US7053022B2; US7718568B2

Designated contracting state (EPC)

BE DE FR GB

DOCDB simple family (publication)

EP 1346766 A1 20030924; **EP 1346766 A4 20040707**; **EP 1346766 B1 20090211**; BR 0116366 A 20040706; CN 100333831 C 20070829; CN 1481277 A 20040310; CZ 20031665 A3 20040317; DE 60137644 D1 20090326; KR 100809463 B1 20080303; KR 20030067701 A 20030814; MX PA03005516 A 20030925; MY 142421 A 20101130; TW 583023 B 20040411; US 2004054221 A1 20040318; WO 02051542 A1 20020704

DOCDB simple family (application)

EP 01272266 A 20011220; BR 0116366 A 20011220; CN 01820846 A 20011220; CZ 20031665 A 20011220; DE 60137644 T 20011220; JP 0111180 W 20011220; KR 20037007823 A 20030612; MX PA03005516 A 20011220; MY PI20015838 A 20011221; TW 90131616 A 20011220; US 45037303 A 20030610